

An Elegant Jewelry Box

Hand-cut mitered dovetails make the best of a subtle design

BY STROTHER PURDY



Simple, rectangular jewelry boxes are easy to make. What's difficult is making them look nice. Without the benefit of curves, complex patterns or inlays to give a box definition, the wood, joinery and proportions become the all-important elements of the design. This box is made of curly Swiss pear, lined with apple on the inside and fitted with a walnut pull. The luscious grain and color of Swiss pear

Corner joinery adds ornamentation. Dovetails with mitered edges require a few extra steps. But for the effect gained, it's time well-spent.

don't need additional embellishment to look stunning. I chose the apple and walnut primarily because they look good with the pear.

For the joinery, hand-cut dovetails with skinny little pins are classic, but they look like butt joints from the top and bottom edges. For a drawer, this detail doesn't matter. But on a jewelry box, framing the lid that way does not look attractive to my eye. To solve this problem, I mitered the dovetails on the lid and the bottom of the box (for more on the technique, see pp. 48-49). Mitered dovetails add interest and formali-

ty to the box without drawing undue attention to themselves.

As for the design and overall proportions, this jewelry box has shallow trays, so it should be relatively flat compared to its width and length. For the proportions, I used dimensions based on the golden rectangle, with a width-to-length ratio of about 1:1.6.

Mill the lumber for the best match

A box is a great project to eat up some of the scrapwood lying around the shop. But there's nothing like making a box from a single, thick board. The color and grain will be very consistent, and by means of resawing, you can book-match panels. For this box, you'll need a board about 2 in. thick by 9 in. wide by 4 ft. long.

First, chalk out the parts, looking for the best grain patterns for the top and the least exciting for the trays. It's possible to resaw a 2-in.-thick board twice, making slices $\frac{5}{16}$ in. thick, and get three identical pieces with two options for book-matching.

Lay the boards on edge for a few days, with air circulating between them. This will help release any residual stresses in the wood. After that, mill the sides and top to dimension and glue up the top panel.

Finish the top and bottom panels before assembly

For the top of the box, book-match the nicest pieces of wood and raise the panel. A raised-panel top softens the look of the box. For the bottom, use whatever wood is left over and leave it flat.

After cutting the dovetails and dry-fitting the sides of the box, take the dimensions for the top and bottom panels from the inside measurements, figuring in the added depth of the grooves. You can make the panels fit just so along their length, but across the width you need to account for changes in the relative humidity and subsequent shrinking or swelling that will occur. Rabbet the edges of the raised field, making them slightly too thick to fit the grooves, then fine-tune the fit with a shoulder plane, scraper or sandpaper. Chamfer the top edges with a block plane—if you want machinelike precision, use a table-saw or router.

Sand and pre-finish the panels before assembling the box. A pre-finished panel won't show an unfinished edge when it

MAKE A BOX FROM A BOARD



One board, one box. A single source for the outside parts of this project ensures a more even grain and color match to the finished box.



Resawing offers two benefits. By cutting thinner pieces of the same board, you can get book-matched panels and waste less lumber.

ASSEMBLE THE BOX, THEN SAW IT APART

The box and lid are constructed as a single unit and then cut apart after glue-up. This method guarantees a perfect fit between the box and lid.

Pre-finish the top raised panel before assembling the box.

Top panel, $\frac{5}{16}$ in. thick with a $\frac{3}{4}$ -in. bevel, is rabbeted to fit grooves in the sides.

Cut $\frac{1}{8}$ -in.-deep grooves for top and bottom panels $\frac{3}{16}$ in. from edges.

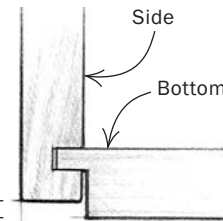
Sides, $\frac{7}{16}$ in. thick by $3\frac{3}{4}$ in. high by 10 in. long

Bottom, $\frac{7}{16}$ in. thick, is rabbeted to fit grooves in the sides.

Mark the sawkerf for where the box and lid will be cut apart after assembly.

Front and back, $\frac{7}{16}$ in. thick by $3\frac{3}{4}$ in. high by 16 in. long

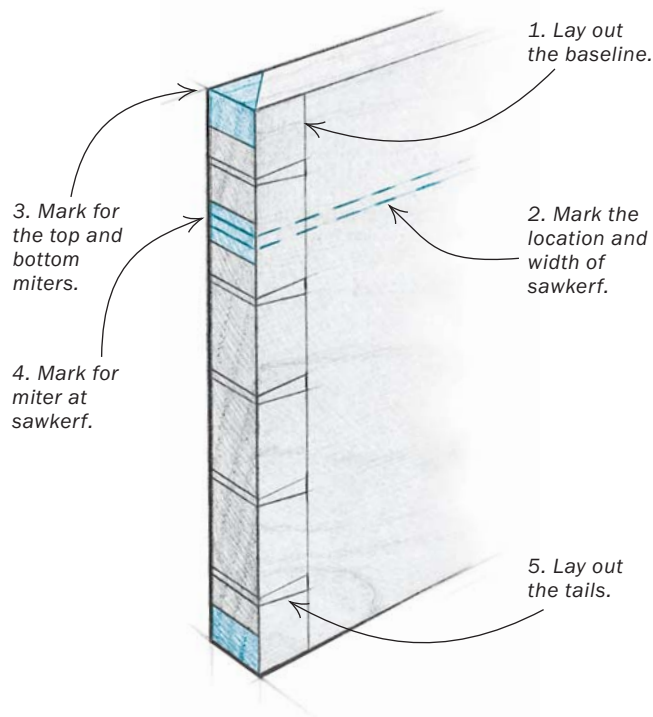
Cut the rabbet on the bottom so that the offset raises the box slightly off the surface.



Mitered dovetails refine the look of a box

Dovetails with mitered edges are cut much like garden-variety dovetails, but they require a few extra steps. You have to be more careful marking the pieces, and they take a little longer to lay out and assemble.

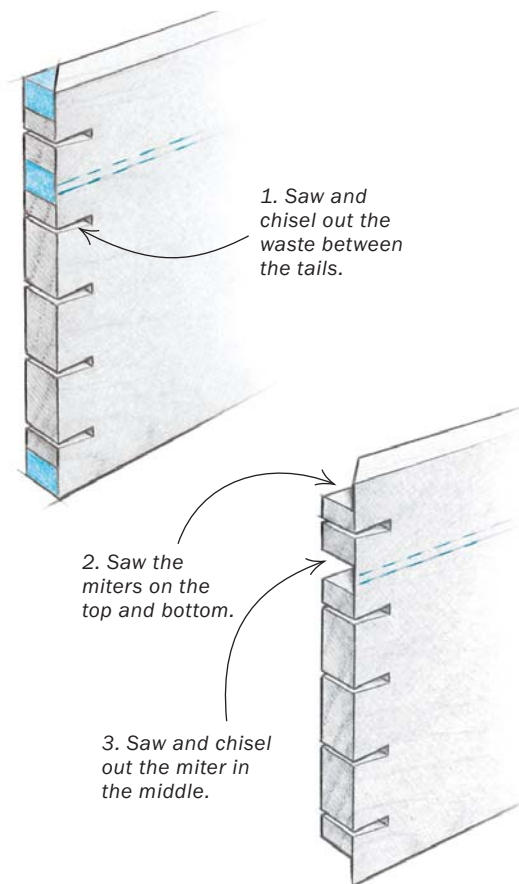
1. LAY OUT THE TAILS



Use a marking gauge to lay out the baselines on the faces of the boards. Lay out the sawkerf that will separate the lid from the box. Mark for the miters about $\frac{3}{8}$ in. from the top and bottom edges. These lines represent the height of the miters. Now, scribe a line $\frac{1}{8}$ in. above and below the sawkerf. Continue these lines from the baseline and around the edges on the inside faces of the pieces only. Finally, scribe the 45° angle on the top and bottom edges.

The mitered ends take the place of the traditional half-pins. There isn't room for a complete tail above the sawkerf, so you need to cut two half-tails. Below the sawkerf, divide the space equally to get three whole tails between four pins. I like to place the tails very close together, leaving only the width of a backsaw blade between them.

2. CUT THE TAILS AND MITERS



To clear out the waste between the tails, use a fine-toothed backsaw because you need to leave a very smooth surface on the inside. You can't go back later and clean it up with a chisel—there simply isn't room. After you cut one side, start the saw in the same kerf, angled the opposite way, to cut the second side.

To cut the miters on the edges, saw slightly off the line both from the edge and from the inside face. Cutting out the miters in the middle (where the lid and bottom will be cut apart) is a little harder. You can only cut them on an angle from the back, so you have to chisel out the waste. Pare the faces of the miters flat and smooth. You can make a jig to guide the angle of your cut if you prefer, but I find it's easier to do freehand.

shrinks out of its groove. Also, lightly sand and pre-finish the inside of the sides (I give them a few coats of shellac). The apple lining will cover most of the inside of the box, but not all of it.

Glue up the box (I use yellow glue), clamping evenly across the faces of the joint. Even pressure is important to avoid putting tension in the box. Later, when you saw apart an unevenly clamped box, the

top and bottom could twist in different directions, making a bad fit. If the pins protrude from the tails, you'll need to make clamping cauls with fingers that put pressure only on the tails.

Let the glue cure thoroughly, then sand the exterior of the box to about 320 grit. Separate the lid from the bottom on the tablesaw, sawing the box in two parts along the layout lines. Clean up the inside edges

with a block plane, scraper or sandpaper until the lid and bottom fit together seamlessly. The edges don't have to be perfectly square—I find they're easier to fit if they're angled in slightly. Sand the box to 400 grit, and finish it as you did the top panel.

Fit hinges to the box and lid

Small box hinges (Brusso brand) are perfect for a project like this. The hinges are



Cut the tails. A fine-toothed backsaw makes a clean and narrow kerf, and it offers good control over the cut.



Chop out the waste. The tight spaces left for very small pins require a $\frac{1}{8}$ -in. chisel to clean them out.



Rough-cut the outside miters with a saw. Then pare them to your pencil line with a chisel.

3. CUT THE PINS AND THE GROOVES FOR THE PANELS

Just as you would for a regular set of dovetails, transfer the locations of the tails to the pin boards. At the same time, transfer the locations of the miters, and cut them as you did on the tail boards.

Now is also a good time to cut the grooves for the panels. Put a rip blade in the tablesaw that cuts a flat-bottomed kerf. Set the blade to the desired depth and groove the panels along the inside top and bottom edges.



Mark the pin boards from the tail boards. A clamp is worth as much as a steady hand when transferring the locations of pins.



Make all necessary saw cuts in the pin boards. Chop out the waste between the pins (left). Pare the miters with a chisel (above).

well made, and they have a positive stop when opened a little more than 90°—so you don't have to add a chain to keep the top from flapping open too far. (Mortising for butt hinges is an art in itself. I'll cover the process briefly, but for more detailed information, see Philip C. Lowe's article in *FWW* #119, pp. 68-72.)

Use a marking gauge and a knife to lay out the position of the hinges. With a sharp

chisel, chop out the waste, paring as necessary until each hinge leaf fits tightly. Now attach the hinges with two #3 steel screws. Instead of drilling for the screws—because they're so small—I made a pilot hole by tapping a small brad into the wood. When fitting the hinges, don't use the brass screws that come with them, because the brass is so soft that the screws will either break or their slots will get mangled. Put

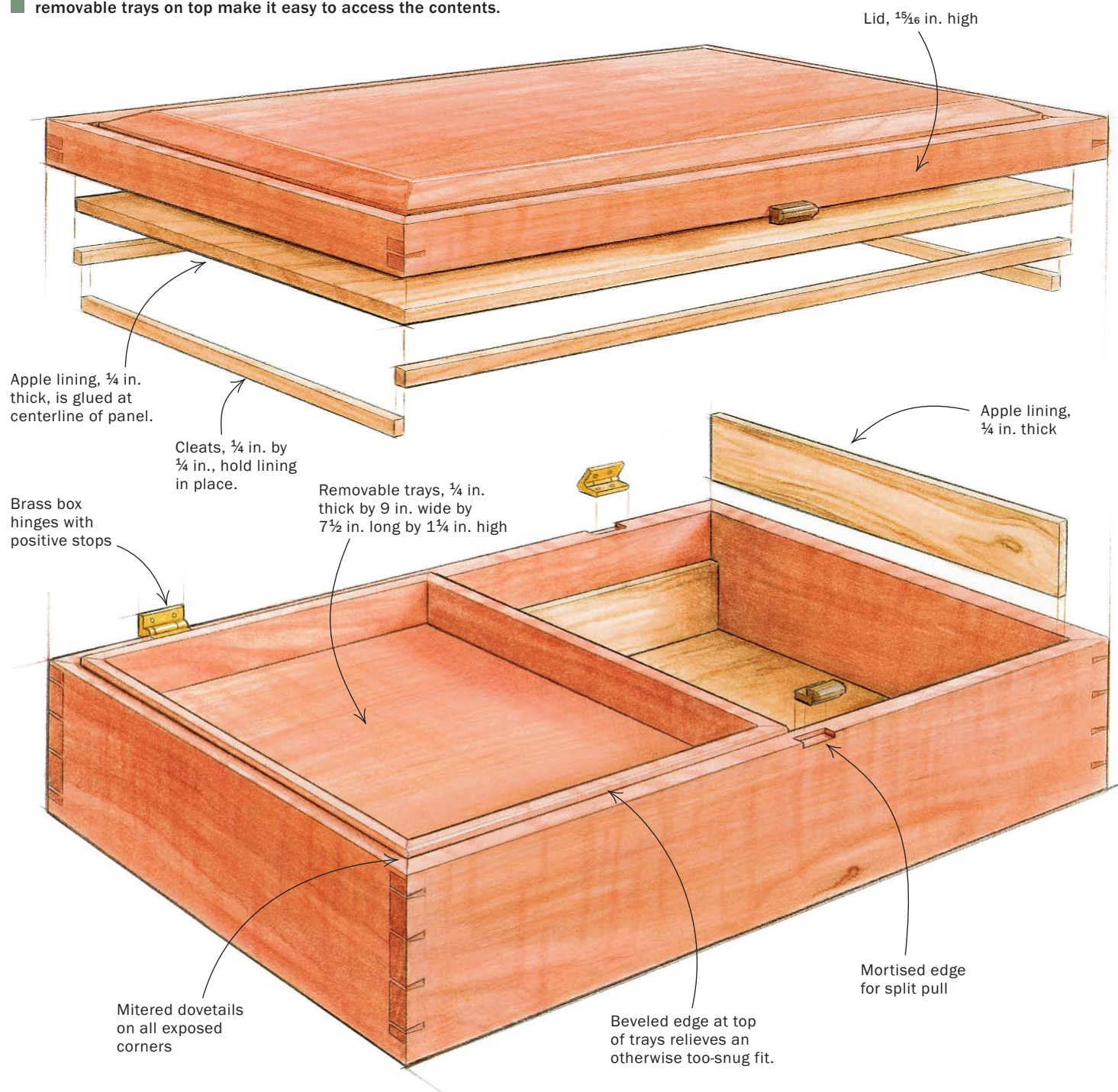
the brass screws in once and only once, after everything is done.

Line the inside and add the trays

The apple wood I used to line this box came from a dead tree in my backyard. Without such a source, I would have used another light-colored wood, such as cherry or maple. The lining should be thin enough to take up little interior space but

CLEAN LINES AND SIMPLE DETAILS

Stunning wood, accomplished joinery and pleasing proportions give this box a visual appeal. The shallow dimensions and removable trays on top make it easy to access the contents.



not so thin that it warps—about $\frac{1}{4}$ in. thick is a good compromise.

Mill all of the lining pieces you'll need. Glue up panels for the inside of the lid and the bottom of the box if you don't have pieces wide enough. Sand them and apply several coats of shellac. These pieces need to be finished so that the bare wood does not come in contact with the contents of

the box. Because wood is acidic, it will tarnish jewelry and ruin any valuable papers.

Fit the linings for the lid and box first, with a spot of glue in the center. Cut them so that they fit tightly along their lengths, but be sure to leave a little space on their sides to allow for wood movement. Cut the side pieces for the lid and box slightly long and press-fit them in place. Fit the

long sides first, then the short sides. If the wood is especially flexible, spot-glue the liner parts in place.

The trays are simply smaller boxes made from the pear wood. Don't bother with fancy joinery for them—miters on single dovetails at the corners are fine. You can cut grooves for the bottoms, if you wish; but because these trays will never take much

SAW APART THE BOX AND INSTALL THE LINING



A tablesawn joint needs a little help. After setting the fence to the layout lines marked on the box, add masking tape around the outside of the box to minimize tearout during the cut. Clean up the sawn edges with a block plane, scraper or sandpaper.



Leave a little breathing room for the lining. After scraping off the shellac from the center of the underside of the lid, the author adds a bead of glue to secure the lining.



Trim to fit. The side pieces are cut to fit and secured with a spot of glue.

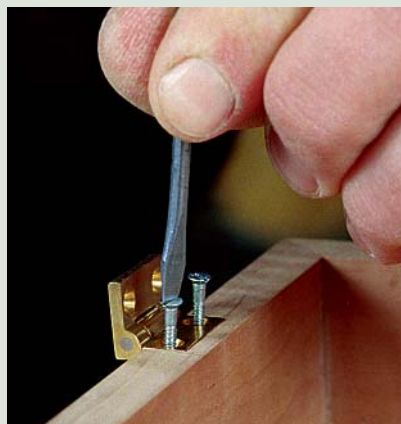
weight, simply gluing on the bottoms works quite well.

The height of the trays is critical. They sit proud of the seam between the box and the lid and form an airtight seal, keeping dust out of the box. Chamfer the top edges of the trays so that they are not abraded every time the lid is closed. To test-fit them, put the trays in place and open the lid. If the trays rise with the lid, they're too tight. Plane or sand the top edges until the trays stay in place when the lid is opened.

A pull with a twist

The small split pull I designed for this box doesn't call attention to itself, but it adds interest to an otherwise plain-looking front. When closed, the pull looks like one piece, but it's actually two pieces—one attached to the top edge of the box, the other to the

Installing hinges



Brass screws wear out easily, so it's best to use steel screws to temporarily fasten the hinges. Steel heads are less prone to stripping. Use the brass screws only for the final fit.

underside of the lid. To open the lid, you need to twist your fingers one way. Trying it the other way makes it seem as if the lid is locked.

Make a slightly oversized rectangular piece of walnut for the pull, and saw it in half. Mortise the two pieces so that they come together just so when closed, then glue them into place, unfinished. Cut and sand them to shape after they're installed.

Finish the outside of the box with a Danish oil mixture, shellac, varnish or lacquer. Let the finish cure for a few days, then give the surface a good coat of wax and buff it to a high shine. Put the hinges back in, and your box is done. □

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